

Policy Briefing

Interactive adaption in 'mid-chain' firms: How are supply chains enabling digital and net zero transitions?

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Conceptual perspectives suggest that supply chains characterised by trust and long-term relationships might play an important role in knowledge sharing and enabling digital and net zero transitions. Our empirical evidence suggests that for smaller mid-chain companies their lived experience of the supply chains in which they operate is rather different. Our empirical analysis suggests relatively limited collaboration for product innovation and little or no significant collaboration on digital diffusion or the dissemination of net zero practices. This suggests a significant gap exists between levels of knowledge sharing and technology diffusion in an idealised supply chain and the current reality.

Key findings

Detailed case study interviews with around 20 companies located in the middle of manufacturing supply chains suggest:

- Strong 'goodwill trust' is not uncommon, most typically with suppliers, and often based on long-term and interpersonal relationships. Similar trust-based relationships with customers are less evident, often complicated by commercial pressures, short-term or intermittent contracts and power imbalances.
- Mid-chain firms' supply chain partners seem unable or unwilling to appreciate the potential value of new technologies, perhaps reflecting a version of the not-invented-here syndrome.
- These factors limit knowledge sharing between supply chain partners, reducing the potential for collaborative innovation.
- Our empirical analysis suggests relatively limited collaboration for product innovation and little or no significant collaboration on digital diffusion or the dissemination of net zero practices.

This suggests a significant gap exists between levels of knowledge sharing and technology diffusion in an idealised supply chain setting and the reality.

Authors



Enterprise Research Centre
Halima.Jibril@wbs.ac.uk

Stephen Roper



Enterprise Research Centre
stephen.roper@wbs.ac.uk

Maria Wishart



Enterprise Research Centre
maria.wishart@wbs.ac.uk

Carol Stanfield



Enterprise Research Centre
carol@enterpriseresearch.ac.uk

Supply chain collaboration – theory and practice

Organisational perspectives on new technology adoption suggest the importance of firms' awareness and positive evaluation of the benefits of new technologies and management practices. Relational perspectives on supply chains also emphasise the importance of trust between firms – often the result of longstanding and personal relationships – as well as power relationships within the supply chain. Taken together these conceptual perspectives suggest an idealised view of a supply chain in which technology diffusion might flourish. This would be characterised by: (a) firms which are aware of the advantages of new technologies and able to evaluate their benefits; (b) goodwill trust which facilitates open and intensive knowledge sharing; and, (c) power imbalances which might facilitate knowledge flows where innovative firms hold more power.

In practice, we find that almost all mid-chain companies were innovative: engaged in product or service innovation, digital innovation and the implementation of net zero practices. Aside from occasional instances where innovative ideas emerged from supply chain partners, however, mid-chain firms' innovations owed little to their supply chains. Instead, a lack of collaboration means that mid-chain firms' innovation tended to be initiated, resourced and delivered from within the mid-chain business.

Implications for policy and practice

This study is qualitative and does not lead directly to strong policy recommendations. It does however highlight the informational and trust failures which limit knowledge sharing and innovation collaboration within supply-chains, while recognising that relatively little can be done in policy terms to overcome any power asymmetries. Policy intervention in supply chains may enable greater information sharing and adoption of critical digital and net zero practices. For example, there is perhaps the opportunity to consider how procurement standards required by Government might foster the adoption of net zero practices. Again, this could be supported by the better sharing of best practice across firms and supply chains to help firms translate their ambition to move towards net zero into practical actions.

Full paper link: <https://www.enterpriseresearch.ac.uk/our-work/publications/>